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NPIC/R-159/63
July 1963

PHOTOGRAPHIC INTERPRETATION REPORT

S-9508

MISSILE-ASSOCIATED FACILITY NEAR EMBA, USSR

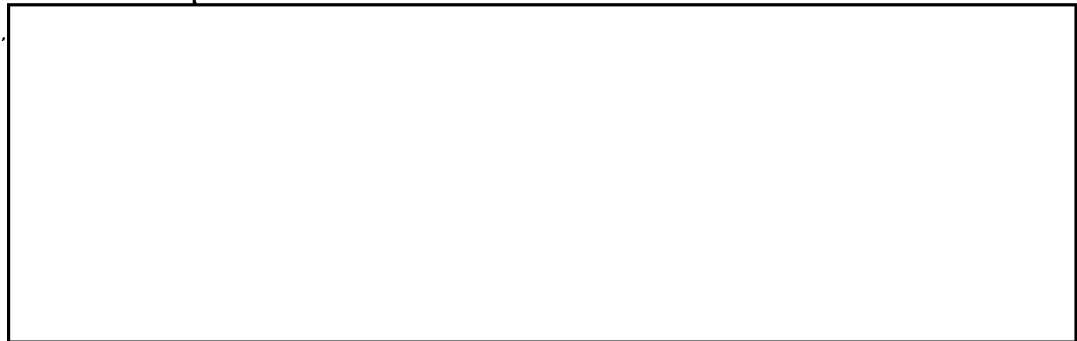


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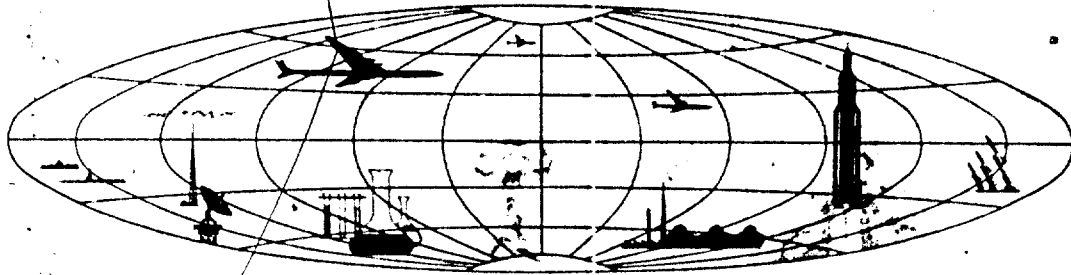
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PREFACE

This report, prepared in response to CIA requirement OSI/289/62 and NSA requirement [REDACTED] presents a photographic study of the missile-associated facility near Emba, USSR.

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The only photography of this installation is that provided by five [REDACTED] missions between [REDACTED]. The quality and small scale of this photography preclude the determination of exact measurements and the assigning of definite functions to many buildings and areas.

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SUMMARY

The Emba Missile-Associated Facility appears to be a major testing or research and development facility rather than an operational-type missile facility. It was still under construction in [] the date of the latest photography, and the particular type of missile activity cannot be determined at this time.

The facility includes a probable launch area with associated support facilities and a separate administrative and logistical support area.

The launch-associated facilities, located in the southern part of the installation, consist

of a probable launch area, a technical support area, and an instrumented range containing eleven instrumentation sites which form a bell-shaped pattern extending approximately 35 nautical miles (nm) in a south-southwesterly direction.

The administrative and logistical support area, located in the northern part of the installation, includes a rail-served support area A and an adjoining airfield with a 7,500 foot runway.

INTRODUCTION

The Emba Missile-Associated Facility at 48-45N 58-04E (Figure 1) is under construction

south of Emba, a town on the Kazakh railroad system 275 nm northwest of Tyura Tam.

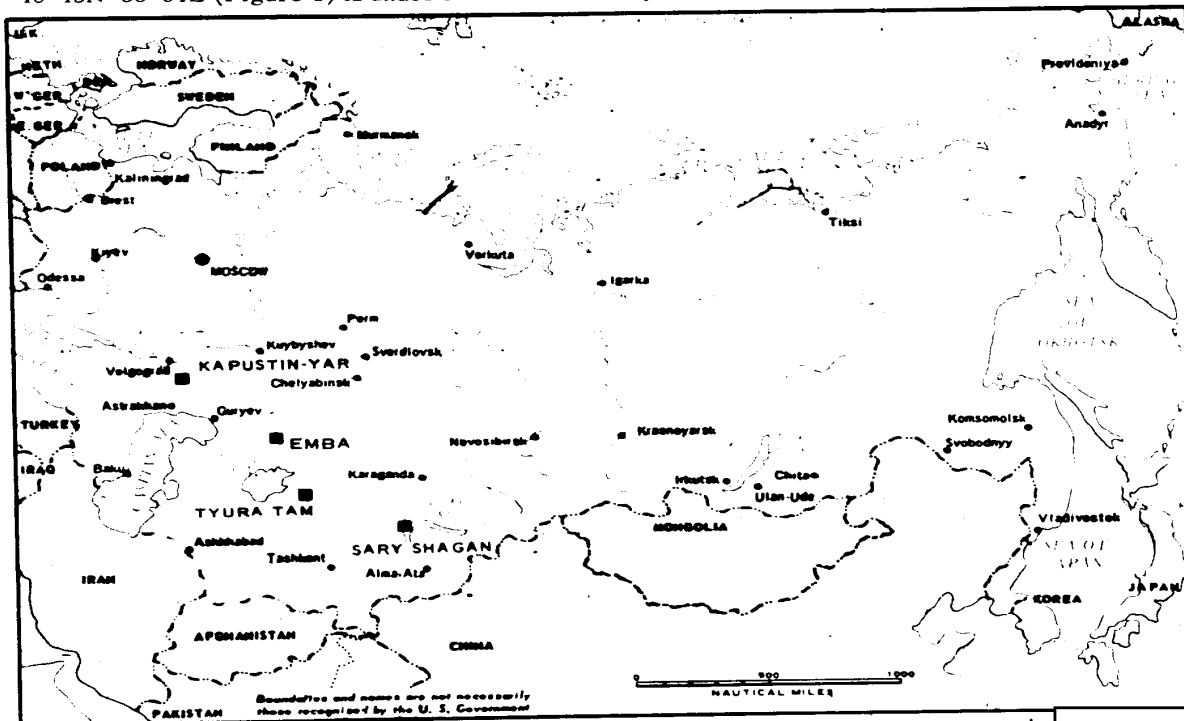


FIGURE 1. LOCATION OF EMBA.

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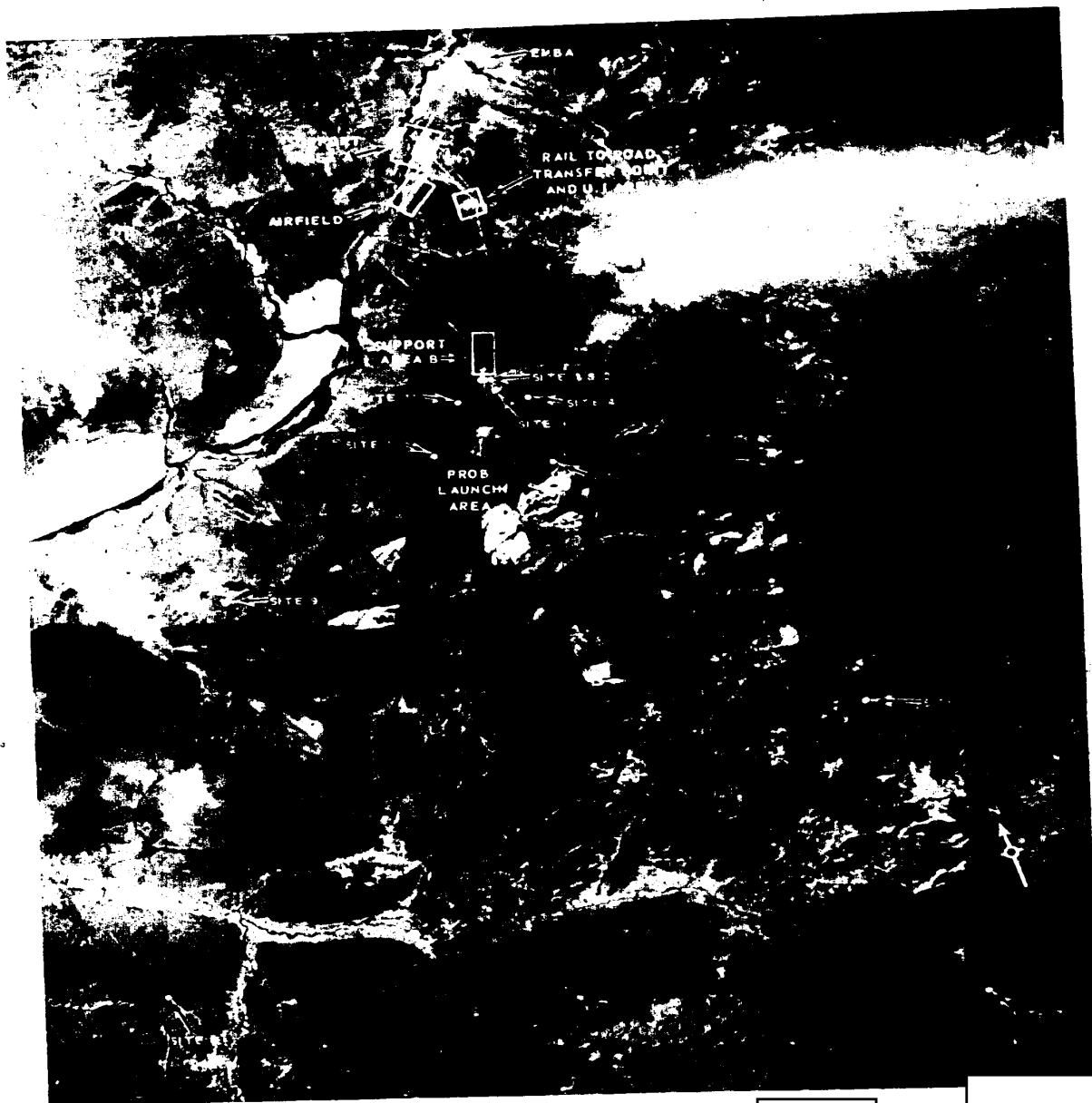


FIGURE 2. MISSILE-ASSOCIATED FACILITY AT EMBA

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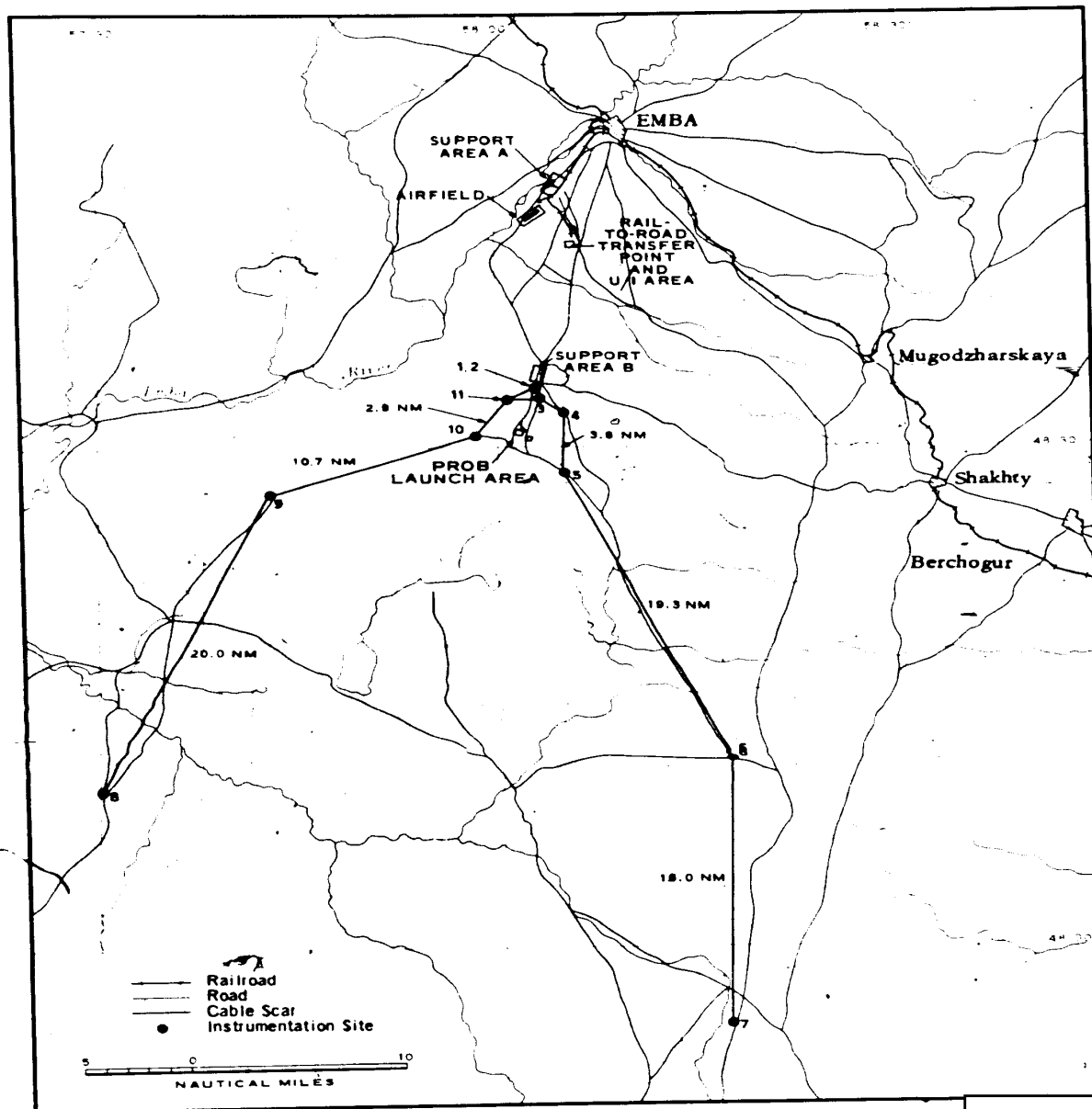


FIGURE 3. LAYOUT OF FACILITIES.

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25X1 This facility was first observed on []
25X1D [] Mission [] The
25X1D only available photo coverage of this area prior
25X1D to this date was [] tracker photography from
[] Mission []
25X1D Although snow covered, this photography
showed no evidence of a railroad or construction
activity in the area south of Emba.
25X1 Since [] the following []
25X1D [] missions have provided fair pho-

tography of this facility: Mission [] dated

[]
This report is based on a study of the
photography resulting from the above []
[] missions (Figures 2 and 3) and de-
scribes the changes resulting from construction
activity between []

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SUPPORT AREA A

25X1 Support area A is located 4 nm south-
southwest of Emba, on the east bank of the
Emba River (Figure 4). This support base,
which occupies an area 9,000 by 5,000 feet,
contains about 114 buildings and two sets of
rail sidings having a total length of 10,000
feet. This appears to be the main support
base. A rail line from this base joins the main
railroad at Emba.

The buildings are primarily grouped into
two separate areas. The northern area appears
to be an administrative and housing area and
contains 56 buildings, most of which measure
about 50 by 25 feet. The southern area con-
tains 33 buildings, most of which measure 130
by 30 feet, and appears to be a barracks or
warehouse area. There are approximately 25
additional buildings on the base, of which five
are major buildings, measuring from 150 to
215 feet long and from 40 to 65 feet wide.

25X1D This support base is still under con-
struction. Of the present 114 buildings, two
major buildings and 23 others had been con-
structed between []

Earth scarring throughout the area indicates
preliminary activity for future construction.

Two sets of rail spurs are located im-
mediately south of the building areas. One

set, composed of three rail spurs, each 1,500
feet long and 225 feet apart, points northward
toward the building areas. The western-
most spur appears to serve a possible heating
plant located near the end of the spur, and may
be elevated to facilitate unloading of material
from hopper cars. The other two spurs do
not appear very active on any of the five missions
between [] The second
set of rail spurs points southward and is com-
posed of three rail spurs, each 1,800 feet
long and 375 feet apart, plus a short 600-
foot rail spur which terminates in a "Y"
fork.

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The southern set of rail spurs appears
more active than the northern set. On []
[] photography a few small warehouses
and a little open storage were visible. Pho-
tography of [] revealed that a few
additional small warehouses had been con-
structed, additional material was being stored
in the open areas between the rail spurs, and
the short 600 foot long rail spur had been
constructed since [] Construction activity
is probably still in progress since the full
capabilities of these rail sidings did not appear
to be in use.

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EMBA AIRFIELD

Emba Airfield is located 6.5 nm southwest of Emba and just south of Support Area A (Figure 5). The airfield has a single graded-earth runway, 7,500 feet long by 650 feet wide and oriented northeast/southwest. An electronics landing facility, possibly a TOKEN radar, is located approximately 4,000 feet southeast of the south end of the runway. The airfield is rail- and road-served by the same system that serves support area A.

The runway appeared serviceable on [] the date of the earliest photography of this airfield. Construction activity, however, is still in progress. The width of the runway

had doubled between []

[] The only large building at the airfield, 130 by 30 feet, was constructed during []

[] Earth scarring and construction activity are apparent near the north end of the runway in the vicinity of the railroad terminus. Increased track activity is apparent throughout the airfield area.

Three medium-sized transport aircraft and ten smaller unidentified aircraft were present at the airfield on []

Aircraft were possibly present on the [] earlier missions, but poor photo quality precluded a determination of number or type.

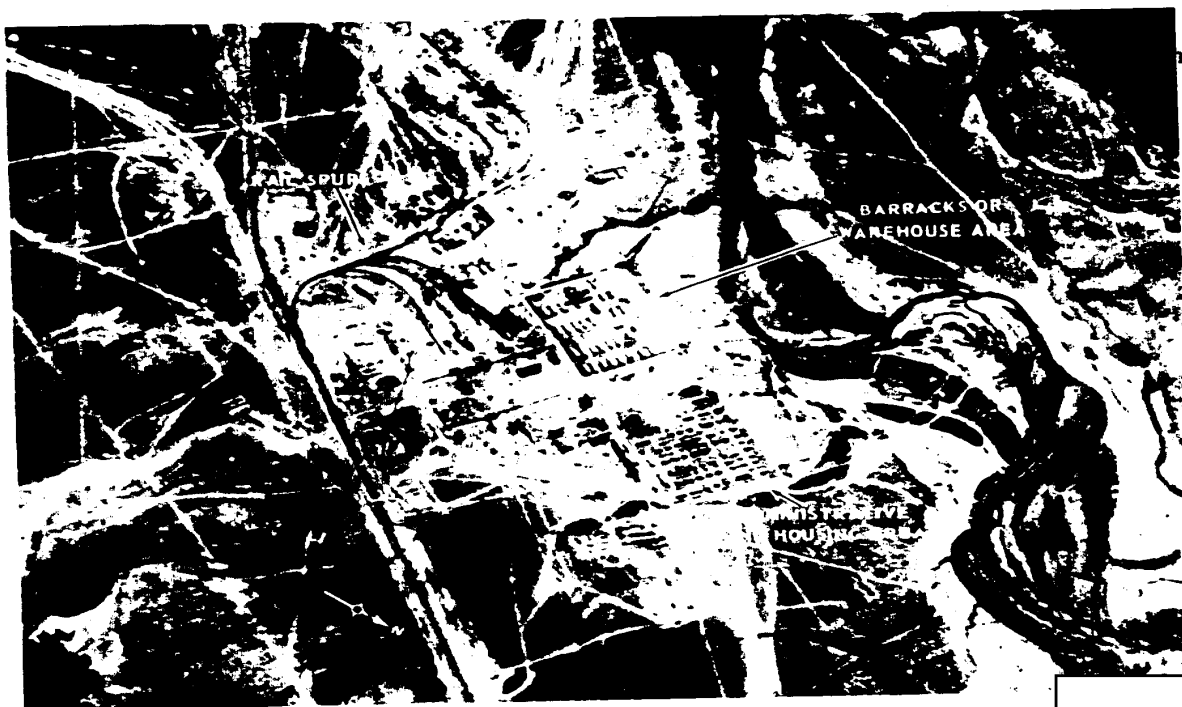


FIGURE 4. SUPPORT AREA A

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UNIDENTIFIED FACILITY AND RAIL-TO-ROAD TRANSFER POINT

An unidentified facility and an adjacent rail-to-road transfer point (Figure 6) are located 3 nm south-southeast of support area A at the terminus of the railroad line from Emba.

The unidentified facility occupies a rectangular area approximately 1,500 by 1,100 feet which contains six large buildings and five small structures. The largest building measures 170 by 65 feet and the other five buildings each measure approximately 125 by 50 feet. Earth scarring around the periphery of this area may be ditches. On the eastern edge of the facility a short rail spur appears to

lead to a large pit, 150 by 80 feet, which has a spoil pile or a building at its southern edge. This unidentified facility appears active, but no significant change in the area was apparent between [REDACTED]

The rail-to-road transfer point is located just north of the unidentified facility at the end of a 4,000-foot long rail spur. No buildings are evident at this transfer point, but some materials appear to be stored in the open near the rail terminus. Roads leading from this transfer point connect with all major facilities. There was no apparent change in this area between [REDACTED]

SUPPORT AREA B

Support area B (Figure 7) is located 11 nm south of support area A and 8 nm south of the rail-to-road transfer point. This support

area, which occupies an area 5,000 by 1,600 feet, contains approximately 25 buildings probably used for shops, barracks, or storage. It



FIGURE 5. EMB A AIRFIELD [REDACTED]

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is located just north of the rangehead instrumentation sites and probably provides support for the operations at the instrumentation sites

and the probable launch area. There was no apparent significant change in this support area between

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PROBABLE LAUNCH AREA

The probable launch area is located 3 nm south-southwest of support area B and 19 nm south-southwest of the town of Emba. The probable launch area (Figure 8) is enclosed in a rectangular double-fenced area measuring approximately 1,600 by 1,300 feet. The road pattern within the fenced area forms a rectangle approximately 800 by 600 feet, with an offset, north-south, center road (Figure 9). The roads appear to be hard surfaced and on a slight fill in order to maintain a common level. On the inside of both the east and west parallel roads is a white square area, approximately 75 feet on a side, which may be a vehicle hardstand or possibly the initial stages of launch pad construction. A low build-

ing or hardstand, 180 by 75 feet, is located on the northwest edge of the rectangular road pattern, and two small buildings are located near the northwest corner of the center offset road. Three small buildings, one of which is bunkered, are located just northeast of the fenced area and appear to be directly associated with operations in the probable launch area.

Outside the probable launch area, the roads do not appear to be graded or surfaced to provide smooth and finished access from the support facilities. While it is apparent that this area is still under construction, little significant change was noted in the probable launch area between

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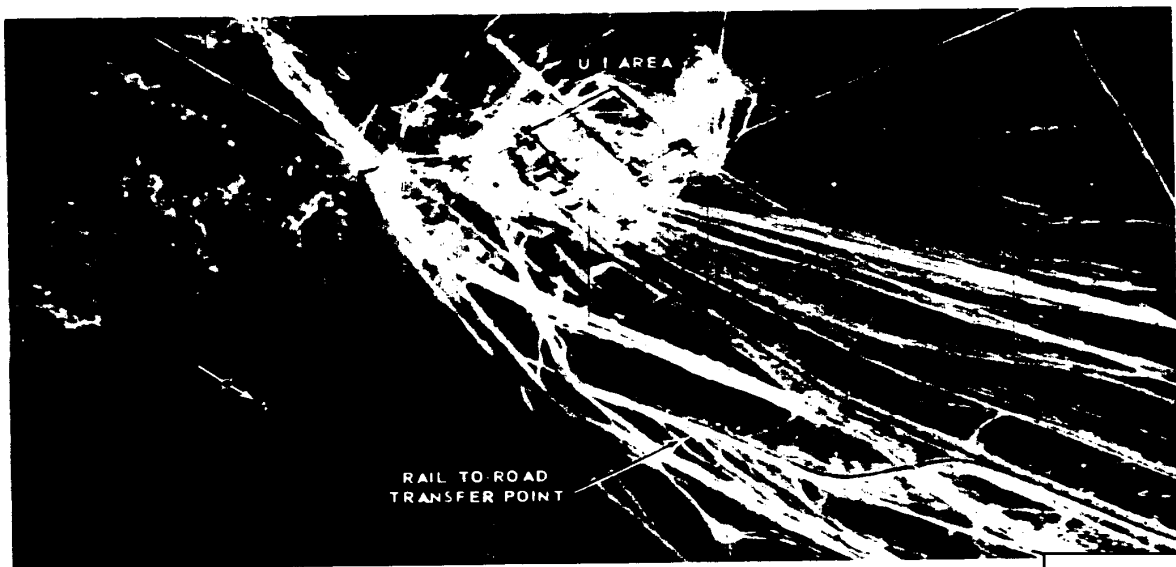


FIGURE 6. UNIDENTIFIED AREA AND RAIL-TO-ROAD TRANSFER POINT

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A smaller double-fenced area, 1,000 by 800 feet, is located approximately 2,000 feet southeast of the probable launch area. A few small buildings or bunkers are discernible with-

in the fenced area, but the quality of the photography precludes a more detailed description of this area. There was no apparent change in this area between [REDACTED]

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INSTRUMENTATION

The eleven instrumentation sites associated with this facility form a bell-shaped pattern oriented in a south-southwesterly direction. Three of the instrumentation sites are located near the apex of the bell-shaped pattern just north of the probable launch area. Four of the instrumentation sites form the eastern leg

of the pattern which extends for 40 nm, and four sites form the western leg of the pattern which extends for 33 nm. The distance across the range between the most southern instrumentation site on each leg is 35 nm. Figure 3 shows the instrumentation pattern and the approximate distance between the sites.

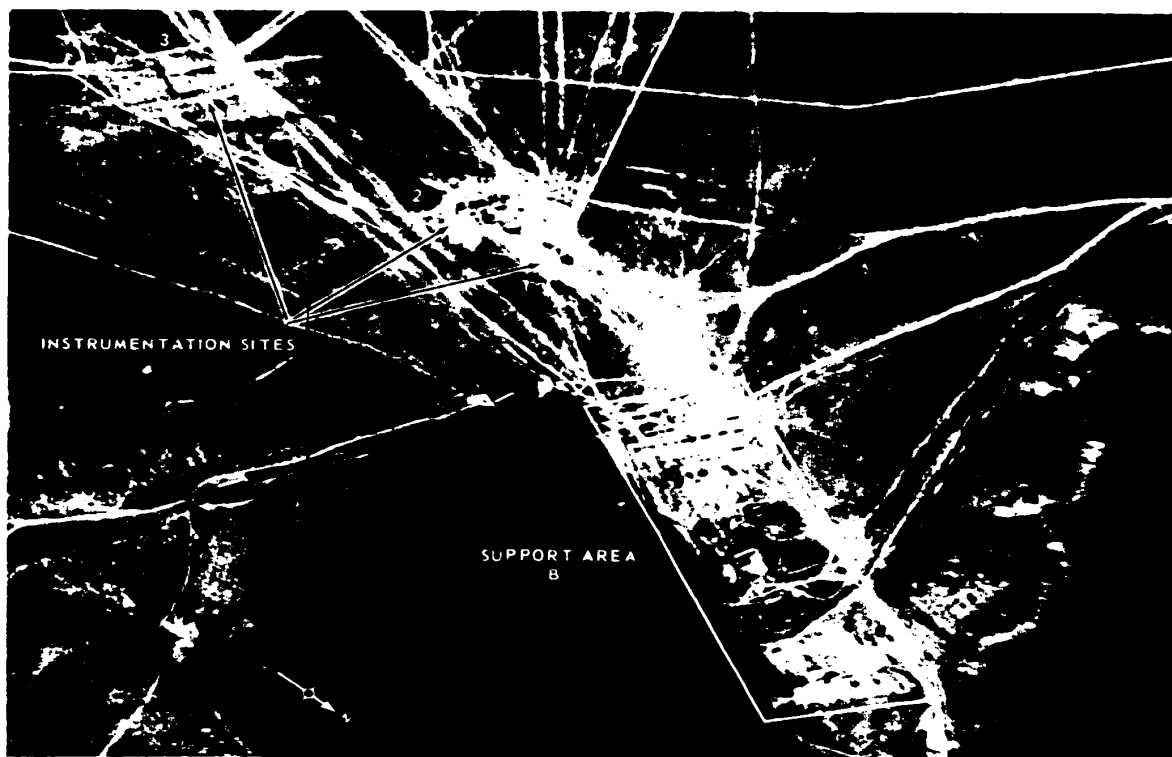


FIGURE 7. SUPPORT AREA B [REDACTED]

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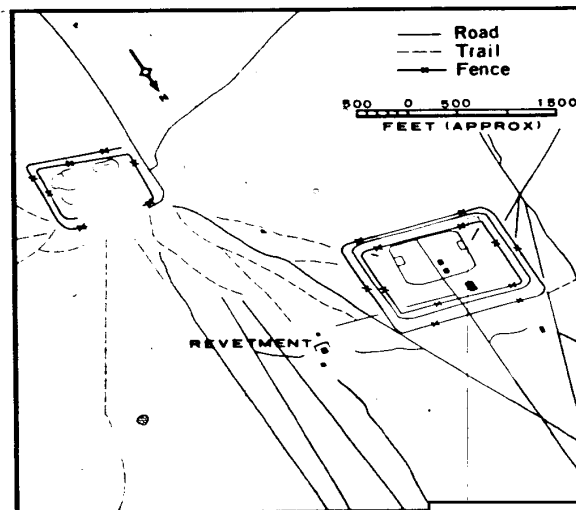
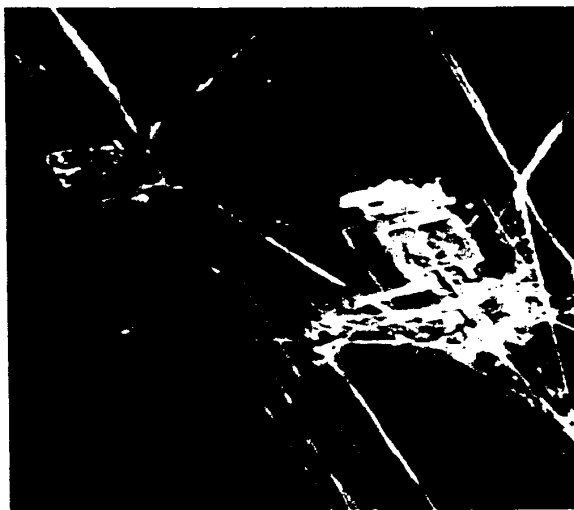


FIGURE 8. PROBABLE LAUNCH AREA

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Five of these sites--sites 2, 6, 7, 8, and 9-- are extensively developed and similar in layout design. Figure 10 shows instrumentation site 6, which is typical of these five sites, except that it is the only site secured by fencing. In addition to a few support buildings, each of these five sites is characterized by a unique arrangement of five buildings in a row. A large rectangular building, 175 by 40 feet, is flanked on each side by two smaller square buildings, 40 by 40 feet. The major, or long, axis of this row of buildings at sites 6, 7, 8, and 9 appears to lie parallel to and looking in toward the nominal flight line. These four major sites are located the farthest from the probable launch area and are the last two sites on each leg of the instrumentation pattern. Site 2, however, which is similar, is located at or near the apex of the pattern in the vicinity of the probable launch area. This site has the same arrangement of five

buildings in a row, but the long axis of these buildings is perpendicular to the range axis and looks down the nominal line of flight.

These five sites appear to contain more instrumentation than any identified instrumentation site at known Sino-Soviet missile test centers. The identification of these areas as instrumentation sites is based on the point-to-point interconnection of earth scars, the typical arrangement of the sites along the nominal flight line, and the similarity of this instrumentation pattern to that at Shuang-cheng-tzu 1/ and Kapustin Yar/Vladimirovka Missile Test Center. 2/

The remaining six instrumentation sites--sites 1, 3, 4, 5, 10, and 11-- are smaller than the others and cannot be described in detail from available photography. However, sites 4, 5, 10, and 11 appear to be similar, each consisting of a single, possibly circular, building.

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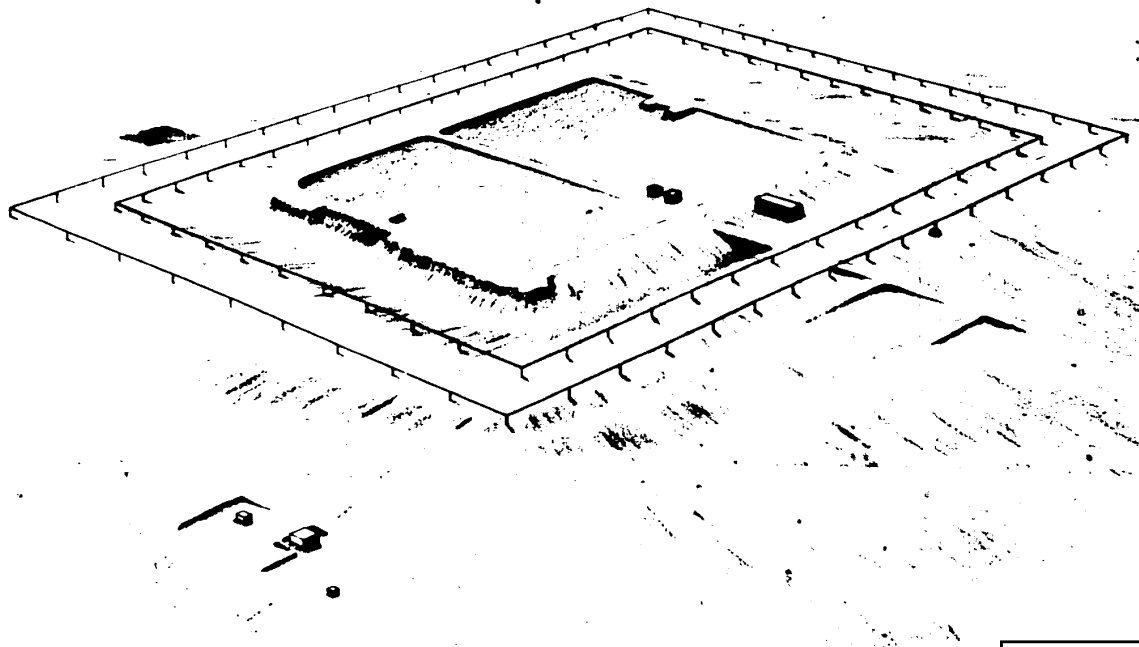


FIGURE 9. CONCEPT OF PROBABLE LAUNCH AREA.

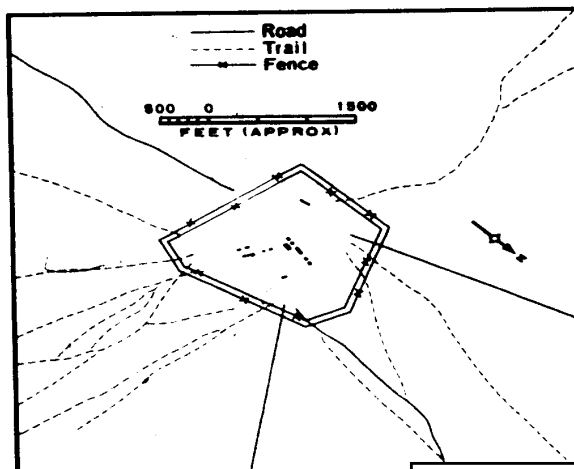
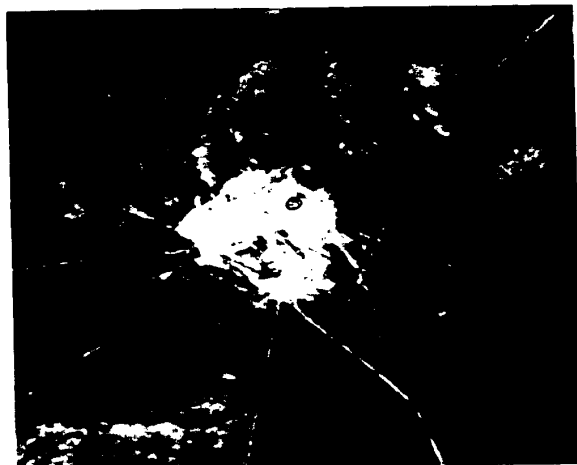


FIGURE 10. INSTRUMENTATION SITE

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CONSTRUCTION ACTIVITY AT INSTRUMENTATION SITES

There was no apparent change between [] at instrumentation sites 1, 2, 3, 4, 5, 10, and 11. Construction activity was very apparent, however, at sites 6, 7, 8, and 9, the four major sites farthest from the launch and support areas. Several miles of new earth scarring or forest clearing, indicative of new roads, trails, pipelines, cables, and/or powerlines connect these sites to each other and to the rangehead area.

Building construction at the four major sites (6, 7, 8, and 9) was in various stages of completion in [] photography it appeared that building construction had been completed, since all four sites had now attained the same characteristic building layout pattern. The following description of changes in these sites between [] and [] shows the rate of progress in building construction.

Site 6. The buildings appear completed on [] photography and no apparent change was noted between []

Site 7. The five characteristic buildings and two support buildings were apparent on [] photography. On [] a few additional buildings were observed and the building construction appeared completed. There was no apparent change in the buildings between []

Site 8. On [] photography no buildings were present and only the initial stages of site clearing were observed. On [] the site clearing appeared completed and on [] the initial stages of building construction were apparent. On [] the buildings appeared to be completed.

Site 9. On [] photography the site was cleared and initial building construction was evident. On [] photography the buildings appeared to be completed, and there was no apparent change in the buildings between []

DOWN-RANGE INSTRUMENTATION

The area south of the Emba facility between the Aral and Caspian Seas and approximately 600 nm to the Iranian border was searched on [] photography, but no identifiable instrumentation sites or major electronics installations were observed. This area south of the facility encompasses thousands of square miles of the desolate Plato Ustyurt and Peski Karakumy that could serve as impact areas.

Five large probable geological prospecting camps were observed at various isolated locations in the eastern half of the Plato Ustyurt

west and southwest of the Aral Sea. These camps are very similar in design, each contain 25-30 buildings, and are characterized by very intensive track activity within a few miles of the camp area. While it appears that the primary function of these camps is gas or oil prospecting, the possibility does exist that, in this forbidding area where logistics is such a major problem, some type of instrumentation or electronics may be associated with these camps. A large-scale, low-oblique photograph of one of these camps may be found in USSR Illustrated Monthly. 3/

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REFERENCES

PHOTOGRAPHY

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2. CIA. PIC/JR-1008/61, Surface-to-Air Missile Facilities, Kapustin Yar/Vladimirovka Missile Test Center, USSR, Mar 61 (SECRET [REDACTED])
3. Krupin, Vladimir. "Nightingales Stay in the Desert," USSR Illustrated Monthly, v.75, no 12, Dec 62, p.18-19 (UNCLASSIFIED)

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REQUIREMENTS

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CIA. - OSI/289/62



NPIC PROJECT

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